

Applications of Chemical Vapor Deposited  $\beta$ -SiC  
 SPIE Proc. Vol CR67, 71-103 (July 1997)

Exhibit B

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attractive because (i) its thermal expansion coefficient matches quite well with that of SiC over a wide range of operating and deposition conditions, (ii) it can be polished to a very smooth surface, and (iii) it can be diamond turned which permits fabrication of aspheric surfaces in a cost effective manner. Cladding of Si on SiC faceplate can be performed either by a CVD<sup>54,55</sup> or evaporation process.

Since SiC is a brittle ceramic material, it is susceptible to the flaw induced fracture. The flaw size,  $C_f$  in a brittle material is given by the formula<sup>9</sup>:

$$C_f = 0.79 (K_{IC} / \sigma)^2$$

where  $K_{IC}$  is the fracture toughness, and  $\sigma$  is the strength of the SiC part. Since the fracture toughness of the material is a constant, the strength of the part depends upon the size of the flaw in the material, which in turn depends upon the volume of the material used in the part. Thus larger is the size of the part, the higher is the probability of finding a flaw of larger size. For SiC with  $K_{IC} = 3.4 \text{ MNm}^{-3/2}$ , and  $\sigma = 421 \text{ MPa}$ , the flaw size is about 52  $\mu\text{m}$  which is quite small and is a few times the grain size of the material. The maximum allowable stress,  $\sigma$  in large parts can be calculated from the following formula:

$$\sigma = \sigma_1 \left( \frac{A_1}{A} \right)^{1/m}$$

where  $\sigma_1$  is the mean fracture stress for the test specimens,  $A$  is the area of the large part,  $A_1$  is the area of the test specimen and  $m$  is the Weibull modulus. For SiC,  $m = 11.45$ ,  $\sigma_1 = 421 \text{ MPa}$ ,  $A = 160 \text{ mm}^2$ . Consequently, for a 1-m diameter part, the allowable maximum stress in the part is 200 MPa. For as-grown SiC surfaces however, the value of  $m$  was determined to be about 4 with  $\sigma_1 = 262 \text{ MPa}$ <sup>56</sup>. In this case the allowable maximum stress in the 1-m diameter part is only about 31 MPa which is quite small. These calculations indicate that while fabricating large size mirrors by the CVD process, one should take extra care to ensure that the SiC deposit is not stressed beyond the allowable values during furnace cool-down.

**Precision Replication:** Precision replication is used when a large number of identical mirrors of CVD-SiC are required<sup>57,58</sup>. Since in the CVD process, SiC is deposited on the mandrel atom by atom, it is possible to replicate a surface down to the atomic scale. Precision replication is performed by depositing SiC on highly polished mandrels. The candidate mandrel materials are SiC, graphite, sapphire, molybdenum and tungsten<sup>59</sup>. The latter three mandrel materials have thermal expansion coefficient larger than that of SiC. The thermal expansion coefficient of graphite depends upon its grade. Consequently, graphite, sapphire, Mo and W can be used for replicating concave or female parts. For replicating convex or male parts, SiC and graphite are the two preferred mandrel materials. Since graphite cannot be polished to a very smooth surface, it can be clad with a layer of SiC or SiO<sub>2</sub> and the optical surface can be fabricated in the clad layer. Since SiC adheres to SiC, a release coating is required to separate the mandrel from the deposit. Sapphire does not require a release coating and readily separates from the SiC deposit due to a significant thermal expansion mismatch. The other two mandrel materials, Mo and W gets etched in the CVD-SiC process due to the

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**C**

In re Rose

Court of Customs and Patent Appeals

Appl. No. 6080

Decided Mar. 22, 1955

United States Patents Quarterly Headnotes

**PATENTS****[1] Patentability - Change - Size or strength (§ 51.261)**

Size of article ordinarily is not matter of invention.

**PATENTS****[2] Court of Customs and Patent Appeals - Issues determined - Ex parte patent cases (§ 28.203)**

Since one rejection must be sustained, it is unnecessary for court to discuss another rejection.

**PATENTS****[3] Patentability-In general (§ 51.01)**

Feature upon which applicant predicates patentability must not only be disclosed in specification but also brought out or recited in claims.

**PATENTS****[4] Patentability-In general (§ 51.01)****Patentability-Invention-In general (§ 51.501)**

Novel concept, per se, is not conclusive of invention; everything which is novel is not patentable, because, in addition to being novel and useful, device must involve invention.

**PATENTS****[5] Patentability-Aggregation or combination-Of old elements (§ 51.159)**

There is no invention involved in combining old elements in such a manner that these elements perform in combination the same function as set forth in prior art without giving unobvious and unexpected

result.

**PATENTS****[6] Patentability-Evidence of-Commercial success-Doubtful cases (§ 51.4557)**

Where there is doubt as to whether invention exists, extensive use and commercial success may be considered to resolve question in favor of applicant; however, evidence of commercial success may be controlling only where issue of patentability is otherwise doubtful.

**PATENTS****Particular patents-Lumber Package**

Rose, Package of, Apparatus for Packaging and Method of Handling and Storing Lumber, claims 29 to 33 of application refused.

**\*238 Appeal from Board of Appeals of the Patent Office.**

Application for patent of Daniel Morton Rose, application, Serial No. 190,625; Patent Office Division 40. From decision rejecting claims 29 to 33, applicant appeals. Affirmed.

J. Preston Swecker (William L. Mathis of counsel) both of Washington, D.C., for appellant.

E. L. Reynolds (H. S. Miller of counsel) for Commissioner of Patents.

Before Garrett, Chief Judge, and O'Connell, Johnson, Worley and Cole, Associate Judges.

Johnson, Judge.

This is an appeal from the decision of the Board of Appeals of the United States Patent Office affirming the holding of the Primary Examiner rejecting as unpatentable claims 29 to 33, the only remaining claims in appellants application for a patent on a "Package of, Apparatus for Packaging and Method of

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#### Handling and Storing Lumber."

The appealed claims relate to a lumber package which is composed of individually banded bundles of lumber which vary in length. Each individual bundle of lumber consists of layers of strips of lumber which are approximately the same length. Each layer consists of a plurality of strips of lumber. These individually banded bundles, which vary in length, are arranged in superposed relationship so that the longer bundles form the base of a stacked arrangement of bundles, and the shorter bundles rest on the longer bundles and on each other. The bundles are arranged in layers of uniform width and depth with a plurality of bundles in each layer. The topmost of the stacked arrangement may be long bundles or short bundles. The stack of bundles thus formed is secured with a plurality of bands, which extend transversely to the length dimension of the bundles. These bands bind said bundles together and form a package. Some of the claims recite the presence of runners beneath the package. These runners extend transversely to the length of the package and are held to the package by the aforementioned bands which bind the package. The runners serve the purpose of supporting the package in elevated position above the surface upon which it rests.

Claims 29, 30, and 31, which are representative of the appealed claims, read as follows:

29. As an article of manufacture, a lumber package comprising a plurality of bundles, each bundle including a plurality of strips of lumber, a band encircling the strips of each bundle, the plurality of bundles being arranged in superposed relation, and a plurality of bands encircling the plurality of bundles and spaced apart lengthwise of the strips, at least one of the bundles at the bottom portion of the package and another of the bundles adjacent the top of the package each having the strips thereof extending throughout the length of the package between a plurality of the last-mentioned bands, and at least some of the bundles between said long-strip bundles being spaced apart lengthwise of the package within the respective bands thereof and comprising short strips appreciably shorter than said long strips.

30. As an article of manufacture, a lumber package comprising a plurality of bundles of uniform width and depth, each bundle including a plurality of layers of strips of lumber, each layer comprising a plurality of strips lying side

by side, a band encircling [sic] the strips of each bundle, the plurality of bundles being arranged in superposed relation, and a plurality of bands encircling the plurality of bundles and spaced apart lengthwise of the strips, at least one of the bundles at the bottom portion of the package and another of the bundles adjacent the top of the package each having the strips thereof extending throughout the length of the package between a plurality of the last-mentioned bands, and runners beneath the package extending transversely thereof between \*239 the last-mentioned bands and the lowermost bundles supporting the latter in elevated position.

31. As an article of manufacture, a lumber package comprising bundles, each bundle including a plurality of layers of strips of lumber, each layer comprising a plurality of strips lying side by side, a band encircling the strips of each bundle, said bundles being arranged in a multiplicity of layers with more than two bundles in each layer lying side-by-side in edge-to-edge relation, and each of a plurality of the layers having the bundles thereof spaced apart lengthwise thereof in end-to-end relation, and a plurality of bands encircling said bundles and spaced apart lengthwise of the strips, a plurality of the bundles at the bottom portion of the package each having the strips thereof extending throughout the length of the package between a plurality of the last-mentioned bands, and runners beneath the package extending transversely thereof between the last-mentioned bands and the lowermost bundles supporting the latter in elevated positions, the strips of each bundle being of appreciable width and thickness and each bundle being of appreciable length cooperating in the multiplicity of bundles to provide a composite package of appreciable size and weight requiring handling by a lift truck.

The references relied on by the Patent Office are:

Denison, 1,600,720, Sept. 21, 1926.

Wheless, 1,766,317, June 24, 1930.

Chambers, 2,012,220, Aug. 20, 1935.

Owens, 2,287,056, June 23, 1942.

Ott, 2,328,356, Aug. 31, 1943.

The Denison patent discloses a lumber package

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which consists of layers of wood which are bound transversely to their length by bands formed of metal. Each layer consists of a plurality of strips of lumber. The following portion of the Denison specification is deemed to adequately describe the structure of the Denison lumber package:

\* \* \* One or more of the lower layers and of the upper layers are preferably formed of pieces which are of the full length of the package. The intermediate layers are made of pieces of full length or of any length which will produce the full length of the package, pieces being selected which will, when laid in position end to end, make the full length or eight feet. Thus two pieces or several pieces may be placed end to end to make the full length. This is the preferred way. But spaces may be left between the ends of the short pieces. That will require more layers to give the package the chosen number of lineal feet of boards.

The Wheless patent discloses a package for knocked down window screen frames. Some of the knocked down pieces of a window screen frame are of different length from other pieces. All of the pieces having one length are wrapped in one bundle. The pieces having another length are wrapped in another bundle. These two bundles are then encircled by strips of paper which hold the individual packages together.

The Chambers patent discloses a method for storing and dispensing lumber. The portion of this patent which is pertinent to the present case shows layers of strips of lumber of equal length fastened by cleats or binder bands to form a plurality of bundles. Each layer consists of a plurality of strips. The bundles are stacked on top of each other. A plurality of bundles in stacked relationship are capable of being handled by a crane.

The Owens patent relates to the packaging of steel sheet material. The portion of this patent which is pertinent to the patent application before us discloses sheets of metal of equal length stacked on a plurality of spaced blocks which are positioned with their longitudinal axes extending transversely to the length of the sheets. Steel bands encircle both the blocks and sheets to form a bundle. A plurality of bundles formed in this manner are stacked on top of each other and fastened together by means of two bands to form a package. One of the last mentioned bands encircles the package in a transverse direction, and the other in a longitudinal direction.

The Ott patent also discloses a package of strip metal. The package consists of a plurality of individually bound bundles of sheets of equal length fastened together by means of steel bands wrapped transversely around the plurality of individually bound bundles of sheets to form a package. Interposed between the aforementioned steel bands and said plurality of bundles, on the upper and lower surfaces of the package, are a number of wooden cleats or blocks which extend transversely of said bundles.

The application involved in this appeal has been before the Board of Appeals of the Patent Office twice. In the first appeal, the Board of Appeals rendered a decision on February 27, 1953, in which it affirmed the decision of the Primary Examiner in which he rejected claims 18 through 30, 32 and 33. Claim 31, prior to the decision of the Board of Appeals, had been allowed by the Primary Examiner in a different form from which it appears above. However, the \*240 Board of Appeals rejected claim 31 under the provisions of Patent Office Rule 196(b) [FN1] on the ground that it did not patentably differentiate from another of the rejected claims. The application was then remanded to the Primary Examiner. Claim 31 was amended by applicant, placed in the condition in which it appears above, and was subsequently rejected by the Primary Examiner. The appellant then appealed to the Board of Appeals from the rejection of claim 31, as amended, and also requested that the board reconsider its previous decision relative to the affirmance of the examiner's rejection of claims 29, 30, 32, and 33. The Board of Appeals rendered its second decision on July 21, 1953, in which it affirmed the Primary Examiner's rejection of claim 31. The board also reviewed its previous decision which pertained to claims 29, 30, 32, and 33, but stated that it could find no reasons for changing or modifying its previous decision. Thus claims 29 through 33 are before us because of an adverse decision on patentability by the Board of Appeals.

The Board of Appeals affirmed the examiner's rejections of claim 31 on (1) Denison in view of Wheless, Ott, Chambers, and Owens, and (2) on Denison in view of Wheless and Ott. The substance of the second of the above rejections is best stated by quoting directly from the board's decision as follows:

\* \* \* It would not be invention to separate the random length lumber strips of Denison into bundles of approximately equal length with each

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bundle tied separately and all the bundles tied together in a package after the teaching of Wheless. Nor would it be invention to provide transverse runners on the package of Denison after the teaching of Ott. It is noted that Denison teaches that 'one or more' of the upper and lower layers may be formed of pieces which are the full length of the package (see specification, page 1, lines 87-99) and it would not be invention to form these full length layers as separate bundles, if desired. The number of strips in a bundle, the number of bundles in a layer, the number of layers of bundles and the relative dimensions of the strips, the bundles and the package are all deemed matters of choice involving differences in degree and/or size and [are] not patentable distinctions. \* \* \*

Appellant argues that this claim recites that the package is of appreciable size and weight so as to require handling by a lift truck whereas Wheless and Denison packages can be lifted by hand. We do not feel that this limitation is patent-

[1] ably significant since it at most relates to the size of the article under consideration which is not ordinarily a matter of invention. In re Yount, 36 C.C.P.A. (Patents) 775, 171 F.2d 317, 80 USPO 141. Notwithstanding appellant's arguments, we feel that this sec-

[2] ond rejection is sound. Since the second rejection must be sustained, we deem it unnecessary to discuss the first of said above rejections. In re Hall, 41 C.C.P.A. (Patents) 759, 208 F.2d 370, 100 USPO 46.

The examiner's rejection of claim 29, which was affirmed by the board, is that it *stands rejected on Denison in view of Wheless*. Since the reasoning behind this rejection is similar to the reasoning of the rejection of claim 31, as stated above, we do not feel that it is necessary to repeat the rejection here. We agree with the board's holding.

The examiner rejected claims 30, 32, and 33 on Chambers in view of Owens and on Owens in view of Chambers with the addition of Ott; the board affirmed this rejection. These three claims are substantially similar in scope, and claim 30, supra, is considered representative of this group. The substance of the rejection is that it would not be invention to join a plurality of the bundles of Chambers into a package by means of one or more transverse tie bands, after the teaching of Owens, and

it would not be invention to omit the intermediate runners of Owens or Chambers and their function, if desired, and to secure the bottom runners separately to the package \*241 by means of the package tie bands after the teaching of Ott. It is to be noted that the Chambers and Owens patents disclose packages which contain bundles of strips of material of equal length, as described above. Appellant states that his package consists of bundles of shorter and longer length. However, it can readily be seen that claim 30 (which is representative of the group consisting of claims 30, 32, and 33) does not recite that some of the bundles are of shorter length than other bundles. We feel that these claims are not patentable

[3] over the applied references since the particular feature upon which an applicant predicates patentability must not only be disclosed in the specification but also brought out or recited in the claims. In re Richards, 38 C.C.P.A. (Patents) 900, 187 F.2d 643, 89 USPO 64. It is to be noted further that claim 30 recites "a lumber package comprising a plurality of bundles of uniform width and depth, each bundle including a plurality of layers of strips of lumber, each layer comprising a plurality of strips side by side." The chambers patent discloses this structure. We are therefore in agreement with the Board of Appeals on their holding relative to claims 30, 32, and 33.

Appellant makes many arguments that his claims are patentable. These arguments in essence are:

(1) The patent application discloses a novel concept which is not taught by the prior art; therefore, the claims should be deemed patentable notwithstanding the simplicity of the structure.

(2) Since there has been commercial success, trade adoption, and imitation of the instant lumber package, as evidenced by an affidavit submitted during the prosecution of the application before the Patent Office, the claims should not be rejected in the absence of clear proof that they are anticipated or clearly invalid.

[4] Relative to appellant's first argument, we do not feel that a novel concept, per se, is conclusive of invention. It is quite evident that everything which is novel must be based on a novel concept. However, it is well settled that everything which is novel is not patentable, because, in addition to being novel and useful, the device sought to be patented must involve invention. In re Corbett, 31

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C.C.P.A. (Patents) 1077, 142 F.2d 78, 61 USPO 361. In re Green, 25 C.C.P.A. (Patents) 1143, 97 F.2d 130, 37 USPO 690. Thus appellant's argument that he has presented a novel concept is not persuasive as to the patentability of his claims since, in our opinion,

[5] there is no invention involved in combining, in appellant's structure, the various known elements and features of the cited prior art in such a manner that these elements and features perform in combination the same function as set forth in said prior art without giving an unobvious and unexpected result. In re Lindberg, 39 C.C.P.A. (Patents) 866, 194 F.2d 732, 93 USPO 23.

[6] We now come to appellant's second argument, which relates to the commercial success of his lumber package, as evidenced by the aforementioned affidavit. It is well settled that where there is a *doubt* as to whether invention exists in an item sought to be patented that extensive use and commercial success may be considered to resolve the question of patentability in favor of the applicant for a patent. In re Hock, 35 C.C.P.A. (Patents) 1235, 168 F.2d 540, 78 USPO 75. However, it is equally well settled that evidence of commercial success may be controlling only where the issue of patentability is otherwise doubtful. In re Renstrom, 36 C.C.P.A. (Patents) 1020, 174 F.2d 140, 81 USPO 390. In re Gillette, 36 C.C.P.A. (Patents) 1172, 175 F.2d 787, 82 USPO 196. In the present case, we feel that there is no doubt that invention is lacking. Therefore, we feel that the arguments relative to commercial success are not persuasive toward allowance of the claims.

It is to be noted in this respect, however, that appellant points out that there was a conflict to opinion in the Patent Office relative to the allowability of claim 31, as discussed above. It would seem that any doubt as to the allowability of claim 31 was solely on the part of the examiner, but this doubt was resolved overwhelmingly against patentability by the Board of Appeals. We have no doubt that claim 31 does not contain patentable subject matter, and we therefore consider the commercial success of the lumber package under consideration to be immaterial with respect to patentability.

For reasons hereinbefore stated, the decision of the Board of Appeals is *affirmed*.

FN1 Rule 196(b) Should the Board of Appeals have knowledge of any grounds not involved in the appeal for rejecting any claim, it may include in its decision a statement to that effect with its reasons for so holding, which statement shall constitute a rejection of the claims. The appellant may submit an appropriate amendment of the claims so rejected or a showing of facts, or both, and have the matter reconsidered by the primary examiner. The statement shall be binding upon the primary examiner unless an amendment or showing of facts not previously of record be made which, in the opinion of the primary examiner, avoids the additional ground for rejection stated in the decision. The applicant may waive such reconsideration before the primary examiner and have the case reconsidered by the Board of Appeals upon the same record before them. Where request for such reconsideration is made the Board of Appeals shall, if necessary, render a new decision which shall include all grounds upon which a patent is refused. The applicant may waive reconsideration by the Board of Appeals and treat the decision, including the added grounds for rejection given by the Board of Appeals, as a final decision in the case.

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END OF DOCUMENT

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In re YOUNT

Appl. No. 5504

## UNITED STATES COURT OF CUSTOMS AND PATENT APPEALS

36 C.C.P.A. 775; 171 F.2d 317; 1948 CCPA LEXIS 317; 80 U.S.P.Q. (BNA) 141

December 7, 1948, Decided

**DISPOSITION:** [\*1] Appeal from Board of Appeals of the Patent Office.

Application for patent of Stanley G. Yount, Serial No. 497,157; Patent Office Division 40. From decision rejecting claims 22 to 25, applicant appeals. Affirmed.

**COUNSEL:** HUEBNER, MALTBY & BEEHLER (VERNON D. BEEHLER and HERBERT A. HUEBNER of counsel) all of Los Angeles, Calif., for appellant.

W. COCHRAN (H. S. MILLER of counsel) for Commissioner of Patents.

**OPINION BY:** JOHNSON, Judge.

**OPINION:** This is an appeal from the decision of the Board of Appeals of the United States Patent Office affirming that of the Primary Examiner rejecting all the claims (Nos. 22 to 25, inclusive) of appellant's application for a patent for an alleged invention for paper bag construction.

The claims read as follows:

22. A multi-walled gusset type bag comprising nested tubes united together by a closing seam at the bottom and formed with a gusset at each side, the front and back walls each consisting of a plurality of seamless sheets arranged in horizontally offset relationship forming vertically extending steps and the sheets of such wall being folded along one side to form one of the side gussets with a marginal stepped extension, said extension being [\*2] folded along the complementary edge of the opposite wall and interfitting with the complementary steps of said opposite wall, the overlapping contiguous

steps being adhered together to form a seam all of which is located in the corner region of the front and back wall immediately adjacent the corner fold and such seams being diagonally opposed.

23. In a bag construction, a structure comprising nested tubes formed with a gusset at each side, the front and back walls being flat and seamless except at diagonally opposite corners, such front and back walls each consisting of a plurality of seamless sheets arranged in laterally offset relationship forming longitudinally extending steps and the sheets of such wall being folded to form one of the side gussets with a marginal stepped extension, said extension being folded along the complementary edge of the opposite wall and interfitting with the complementary steps of said opposite wall, the overlapping contiguous steps being adhered together to form a seam one such seam being located in the corner region of the front wall and the other such seam being located in the corner region of the back wall immediately adjacent the corner [\*3] folds, and such seams being at diagonally opposed corners.

24. In a bag construction, a structure comprising a tube formed with a gusset at each side, the front and back walls being flat and seamless except at diagonally opposite corners, such front and back walls each consisting of a seamless sheet folded at one edge portion forming one of the side gussets with a marginal extension, said extension being folded along the complementary edge of the opposite wall and having a surface in contact with the surface of such wall sheet and adhered thereto forming a seam one such seam being located in the corner region of the front wall and the other such seam being located in the corner region of the back wall immediately adjacent the corner folds, and such seams being diagonally opposed.

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1948 CCPA LEXIS 317, \*; 80 U.S.P.Q. (BNA) 141, \*\*

25. A multi-walled paper bag comprising nested tubes each formed of two sheets joined by longitudinal seams each seam formed by creasing and overlapping the marginal edge portion of one sheet over the adjacent uncreased edge portion of a second sheet corresponding in stratum position to the first sheet, such longitudinal seams in each layer being offset laterally from the seams in the next layer [\*4] and the adjacent seams forming a series of interfitting steps, the total thickness of such adjacent stepped seams only one layer greater than the total thickness of the wall, and the two series of interfitting steps being located at opposite creased corners of the tubes.

The references relied upon are:

Hartmann, 1,549,832, Aug. 18, 1925.

Abramson, 2,316,385, Apr. 13, 1943.

The alleged invention may be well understood from a reading of the claims.

Appellant's application discloses a method of making a paper bag; however, the claims here involved relate only to the structure of a bag.

The Hartmann patent, *supra*, shows a bag constructed of two sheets of paper having marginal portions along the edges overlapping and secured together to form seams extending from the top to the bottom of the bag and located on opposite sides of the bag adjacent its edges. The construction of the Hartmann bag leads to the same manufacturing advantages as claimed by appellant.

The Abramson patent, *supra*, shows the practice of folding the bag at the edges along three lines to designate portions of the bag wall that are referred to as gussets. It also shows a bag made of several [\*5] plies of sheet stock with the seams in the plies formed and offset from each other as claimed by appellant.

The use of several plies of paper, the offset positions of the seams, and the folds designating the gussets at the edge of Abramson's bag can be applied to [\*\*143] Hartmann's bag in the same way they are applied to Abramson's bag. Such a modification of Hartmann's bag in view of Abramson's disclosure does not involve invention.

Appellant contends that the paper bags are of extremely large size. However, there is nothing in any of the appealed claims specifying a large bag, and appellant's specification states, "the invention is also applicable to the fabrication of relatively smaller bags."

It was held in the case of *In re Kirke*, 17 C.C.P.A. (Patents) 1121, 40 F.2d 765, 5 USPQ 539, that mere size is not ordinarily a matter of invention. Where appellant by his own specification teaches that small bags are the equivalent of large bags, he is not in a favorable position to argue for any invention in one as distinguished from the other. *In re Ayres*, 23 C.C.P.A. (Patents) 1118, 83 F.2d 297, 29 USPQ 424; *In re Withington*, 26 C.C.P.A. (Patents) 1290, 104 F.2d 192, [\*6] 41 USPQ 742.

Appellant also contends that he has given the court "a comprehensive picture of the paper bag industry reflecting the problems and limitations confronting inventors in that field." However, this court has held that where an appellant contends that the device defined by his claims solves a problem long existent in the art, with wide commercial success indicating its supposed merit as an invention, and the record remains silent as to the factual data required to support such a contention, the court will not consider or rely on such contention or statement. *In re Casey*, 35 C.C.P.A. (Patents) 869, 165 F.2d 1019, 76 USPQ 463.

We agree with the finding of the Board that the cited patents of Hartmann, *supra*, and Abramson, *supra*, disclose all the features of construction of the bag defined in the claims.

The decision of the Board of Appeals is affirmed.